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ABSTRACT

A discussion of how well freshmen students are performing at Arizona's three universities, the relationship of high school class standing to performance, and the resulting need to change admission standards is presented as one of the working papers in the final report of the Arizona Board of Regents' Task Force on Excellence, Efficiency and Competitiveness. Topics considered include: current admission standards at Arizona universities; analysis of first-time resident freshmen; origin of first-time freshmen students at'the universities; high school class standing of the 1986-87 resident freshman class; students from high schools differing in average basic skill level; identifying at-risk students; need for more comprehensive admission requirements; and need to assess the impact of admission standards implemented in 1987-88. Three conclusions are: attempts to improve the quality of the student body are not rewarded by the current funding system; students from lower score high schools are at greater risk; and efficiency at the universities would probably be increased by raising admission standards for resident students. Recommendations include that: (1) universities should assess the impact of admission standards implemented in 1987-88 on minority enrollment and student success; and (2) university admission policies should be widely distributed to potential participants in higher education. An appendix shows the Arizona public high schools in which students score highest and lowest on standardized examinations of basic skills. Contains 7 references, 3 figures, and 7 tables. (SM)

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ADMISSION REQUIREMENTS AT ARIZONA PUBLIC UNIVERSITIES

KATHLEEN CHURCH

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INTRODUCTION

Coopers & Lybrand raised an important question in their initial Arizona environmental scan.

"Do admission standards insure that students admitted to the universities are prepared to do the work?"

The reasons students do or do not succeed at a University are complex and involve academic, social and economic factors about which volumes have been written. Regardless of the social and economic factors, the harsh reality is that to persist in a university, a student must meet a number of minimum academic standards. Regrettably, not all entering students can meet those standards. National studies estimate that nearly 28 percent of all new entrants into four-year colleges depart from their first university by the end of their freshman year (see Tinto, 1987 for review). Of those who leave, approximately 40 percent transfer to another two- or four-year institution, and 60 percent "drop out," either voluntarily or by institutional action because of poor academic performance. Various studies estimate that from 10 percent to 30 percent of voluntary withdrawals result from academic reasons.

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Some students withdraw voluntarily from the university to avoid the stigma of failure while others will endure until forced to leave. Arizona universities are beginning to show concern for this problem. At one Arizona university, approximately one-third of the 1986-87 freshman class did not return to that campus for the sophomore year. An investigation by the institution revealed that of those who did not return, 33 percent were experiencing academic difficulty as defined by the institution. Freshman attrition is also being seriously analyzed at another Arizona university. The class which entered in 1980 has been studied in detail. About 30 percent did not return the following year and of those, one-third left not in good standing.

Nationally, admission requirements usually are based on grade point average, high school class standing and/or performance on standardized examinations. Of these, performance in high school (grade point average or class standing) is considered to be the best predictor of success in postsecondary education if success is defined as the ability to eventually graduate (Astin, 1975). Irvine's classic 1966 study of 659 men who entered the University of Georgia determined that the single best predictor of college persistence was high school grade point average. While high school GPA may be the best predictor for success in a

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university, it most certainly is not without problems. The correlation between high school GPA and graduation, while statistically significant, is not impressive. Only 12 percent of the variance in staying or leaving behavior can be explained by high school GPA (Irvine, 1966).

Despite its limitations and because there are no better predictors of academic success, high school GPA and high school class standing constitute two of the three ways to qualify for admission to Arizona's public universities. To begin to respond to the question posed by Coopers & Lybrand, we undertook an analysis to answer the following questions:

1. How well are freshman students performing at the universities?

2. Does high school class standing relate to performance at Arizona's universities? and

3. Assuming that other conditions remain the same at the universities, should admission standards be changed?

Our analysis suggests that a substantial number of first-time freshman students that have, at best, a modest chance for academic success are being admitted to the universities. The evidence also suggests that the universities were well advised to undertake a recent revision of admission requirements for non-resident students (see below). We will argue, however, that further study is warranted prior to defining new admission standards for resident students and that the proposed implementation schedule for resident students should be revised. Finally, if the overall quality of the students entering the institutions is to be raised, the legislature, State and the Board of Regents must establish funding criteria which do not penalize the universities during periods of declining enrollments.

CURRENT ADMISSION STANDARDS AT ARIZONA UNIVERSITIES

Admission standards historically have been non-stringent at the Arizona universities for two main reasons:

1. A stated mission of promoting access to higher education by insuring that opportunities are available to all qualified citizens; and

2. A funding structure that is a strong incentive for maintaining enrollments.

Board of Regents' policy establishes minimum but, as of 1987, not necessarily uniform undergraduate admission requirements for the universities. Resident students who are in the top 50 percent of their high school graduating class or who have a grade point average of at least 2.5 or who score 21 on the ACT or 930 on the SAT examinations, respectively, are welcomed into any one of the three universities. Residents transferring to the Arizona universities must have achieved a minimum grade point average of 2.0 for work completed elsewhere. Up to an additional 10 percent of the resident students who do not meet the minimum standards may be admitted under special circumstances outlined by the Board of Regents. Beginning with the entering class of 1987, students admitted to Arizona universities must have completed a more stringent high school curriculum than was previously required. The new requirements preceded, but are similar to, the curriculum suggested by Secretary of Education William Bennett

as a model for preparation to enter the nation's universities.

ASU and UA recently increased admission standards for non-resident students (to date, NAU has not followed their lead). Beginning with Fall semester, 1988, to be admitted unprovisionally to ASU or UA, non-resident students must graduate in the top quartile of their high school class, or have a high school GPA of 3.0 or a combined verbal and quantitative score of 23 or 1010 on the ACT or SAT examinations, respectively. An admissions committee must consider students in the second quartile or those who have a GPA of 2.5-2.99. The University may admit, admit with conditions, defer admission, or deny admission to the latter category of students. Non-resident transfer students who achieve a 2.5 GPA in all transferable courses taken at other institutions of higher education may be admitted without conditions. Non-resident transfer students who achieve a cumulative GPA of 2.0 to 2.49 in transferable courses must be assessed by an admissions committee. These individuals may be admitted with or without conditions or denied admission. Theoretically the universities could admit all or none of the students in the admit-by-committee category.The universities hope to conditionally admit students who are at risk in order to more fully address the academic needs of such students. Both ASU and UA have proposals before the Board of Regents that would apply the more stringent admission standards to resident students beginning in 1990. NAU currently is reviewing its admission standards. It should be noted that NAU currently has the highest admission standards among members of its athletic conference and ranks among the top one-third in admission standards among institutions it considers to be peers.

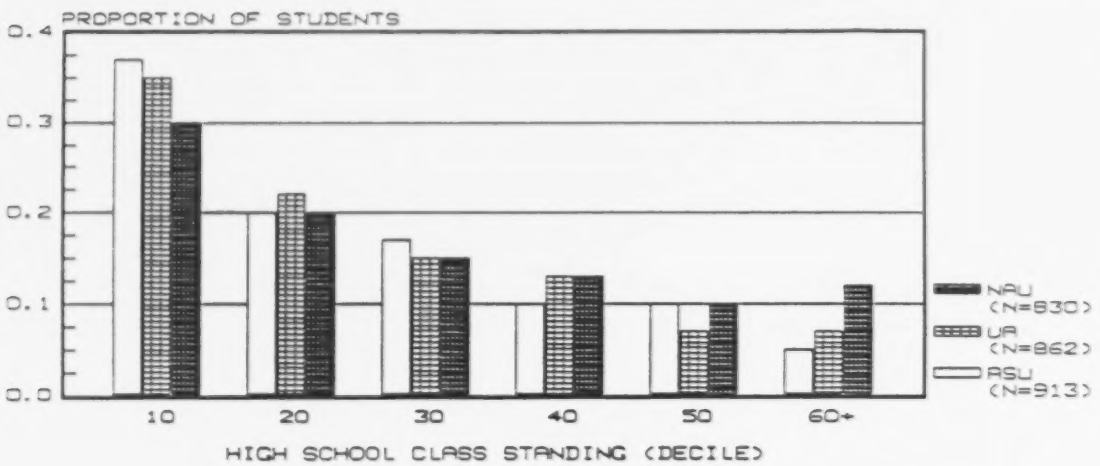
AN ANALYSIS OF FIRST TIME RESIDENT FRESHMN

SOURCE OF INFORMATION

Most of the data for the analysis which follows were extracted from the Board of Regents' Report on the Academic Performance of 1986 Arizona High School Graduates. The report is a legislatively mandated mechanism whereby the universities inform each Arizona high school how its graduates performed during their freshman year at the university. The sample of students used for the analysis includes all freshman students who had provided high school class standing information upon admission; who had graduated from a public high school located in Arizona in the Spring of 1986, and who were enrolled in freshman English during the 1987 Spring semester. When possible, the information was validated by appropriate authorities at the universities. What follows should be considered only as a pilot study. It examines only one entering class. The analysis should be extended to other cohorts of individuals admitted to the universities and a longitudinal analysis should be undertaken to validate the results and to determine changes that may be taking place over time. Studies of this nature are currently underway at all three Arizona universities. It is important to emphasize that this report does not consider transfer students, a very large group, especially at ASU. During Fall, 1986, 46 percent of the 9,454 new students at ASU were transfers.

FIGURE 1

RESIDENT FRESHMEN, SPRING, 1987



ORIGIN OF FIRST TIME FRESHMAN STUDENTS AT PUBLIC UNIVERSITIES IN ARIZONA

The majority of the first time freshmen during the 1986-87 academic year at each of the universities graduated from an Arizona high school (Table 1).

TABLE 1

PROPORTION OF RESIDENT AND NON-RESIDENT 1st TIME FRESHMAN STUDENTS ATTENDING ARIZONA UNIVERSITIES (FALL, 1986)

	Total Number	% Resident	% Non-Resident
ASU	3987	50.3	49.7
UA	4259	62.5	37.5
NAU	1781	70.1	29.9

A substantial proportion are non-resident students, especially at the two larger universities. While the percentages of non-residents may seem large, the figures are misleading. The actual proportion of non-resident students to the total student body does not exceed 25 percent at any of the three universities.

HIGH SCHOOL CLASS STANDING OF 1986-87 RESIDENT FRESHMAN CLASS

Although the universities routinely admit resident students who rank in the top-half of their high school graduating classes, a substantial majority of the resident students at all three institutions actually graduated in the top three deciles. A relatively small, but not insignificant, proportion of the students are admitted from the lower 50 percent of the graduating class. The latter students enter because of appropriate SAT or ACT scores or via the special admission route (Figure 1).

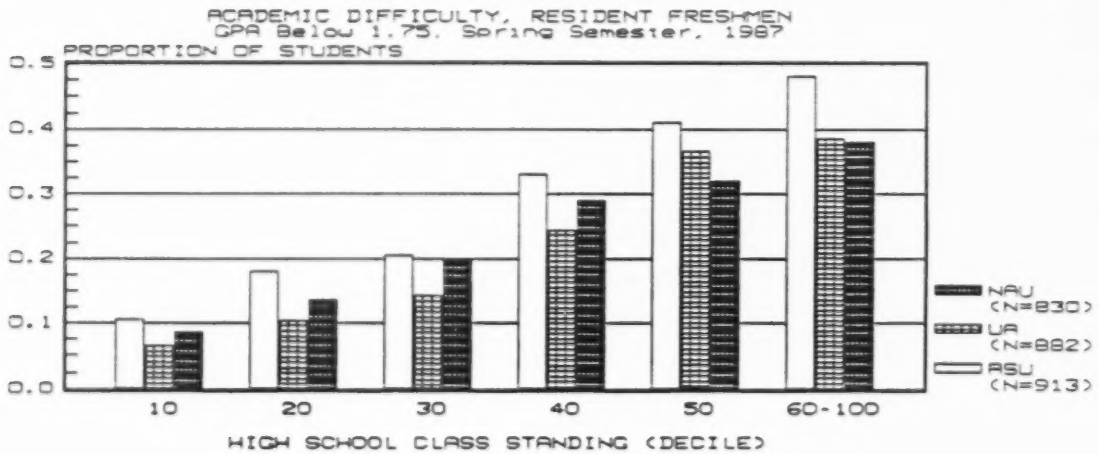
To the extent that the sample is a true reflection of all resident freshman classes, it appears NAU may be slightly underrepresented by students from the top decile and overrepresented by students from the bottom deciles. ASU

and UA are remarkably similar. However, there is a caveat in the database which may result in an underrepresentation of students in the top deciles. Class rank data were unavailable for a proportion of the students at all three universities. Data supplied by UA indicate that those students for whom class rank was not recorded (approximately 20 percent of the total) had on average higher standardized (ACT or SAT) scores than students for whom class rank was recorded and thus may have been from the top deciles. Nevertheless, it is clear that all three universities draw AT LEAST two-thirds to three-fourths of their resident students from the top 30 percent of the high school graduating classes. The majority of students from the lower deciles may be opting for the community college system or are not participating in higher education. Whatever the reason, there is a considerable amount of self selection by Arizona residents as to choice of entry into higher education.

ACADEMIC PROGRESS OF THE 1986-87 RESIDENT FRESHMEN

It is important to determine what proportion of the resident freshmen students experience academic difficulty. Freshmen who do not have a cumulative grade point average above 1.75 after having completed from 14-26 hours are placed on academic warning at the UA, NAU and ASU. For the current analysis we used a grade point average of 1.75 (C-) or less, earned during the second semester of the freshman year, as an indicator of academic problems. The information summarized in Figure 2 suggests that individuals in the top three deciles have a significantly greater chance of academic success at the Arizona universities than do students from the lower deciles. It should be emphasized that by analyzing only spring semester grades, we may be underestimating the number of students in academic difficulty. Many may have dropped out during or following Fall semester.

FIGURE 2



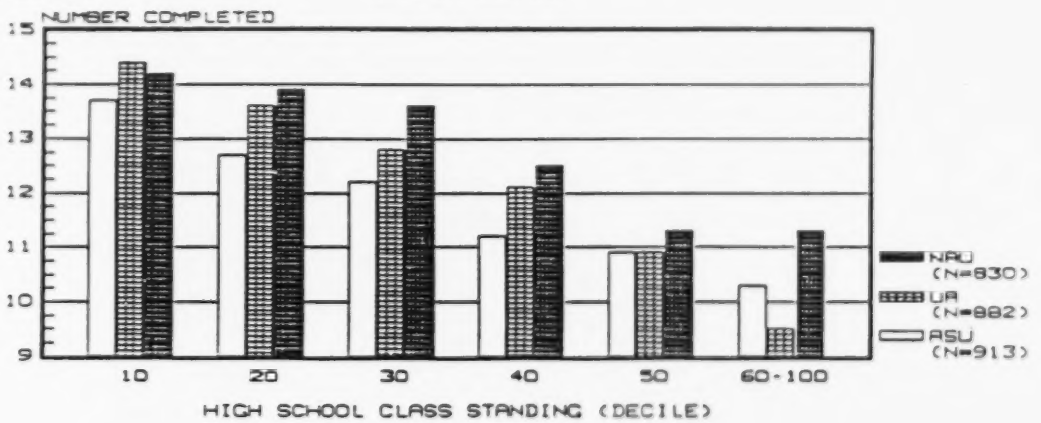
Arizona State University proved to be the most difficult for this particular group of freshman students. Why this should be the case is not clear. What is clear is that a student who graduated in the lower half of his/her high school class has only a 40 to 50 percent chance of completing the freshman year without academic problems and the odds are not much better for students from the fiftieth decile.

It should be emphasized that with this analysis we are dealing with averages and can say nothing about individuals. Many students performed well in high school and yet floundered at the university. Conversely, at least 50 percent of the students who were not known for scholastic achievement in high school proceeded through their freshman year in good standing. By raising admission standards, many students who might have succeeded may be denied the opportunity. However, it is worth remembering that in this analysis we are dealing with only one of three aptitude standards for admission. Nevertheless, it is clear that in terms of academic success rate, the universities would increase efficiency by raising admission standards. But the increased efficiency could be attained only by a possible curtailment of opportunity for some of the less-promising students.

Although it is not the purpose of this analysis to question admission requirements for non-resident students, there are some very interesting and rather peculiar differences between resident and non-resident students in the freshmen class of 1986. Data from the three universities suggest that non-resident, first-time freshman tend to be drawn from a broader spectrum of deciles than do residents. Roughly 50-to 60 percent of all non-resident students were drawn from the bottom seven deciles compared to from 25- to 35 percent of the resident students. Furthermore, non-resident students function much better academically than do resident students. At one Arizona university, fewer non-resident students from the fortieth decile were in academic difficulty than were resident students from the tenth decile. These most curious observations suggest that graduates from high schools outside of Arizona have a greater likelihood of academic success in Arizona universities than do resident students. Why this should be the case is not clear. However, it may be that out-of-state students are more likely to have graduated from what we have referred to as "higher scores" high schools (see later section). What is clear is that data for the two groups should be examined separately when determining university

FIGURE 3

Hours Completed, Resident Freshmen
Spring, Semester, 1987



and Board of Regent Policy.

CREDIT HOURS COMPLETED

Measures of efficiency for a university include not only its student success rate but also its retention rate and how rapidly students proceed toward the baccalaureate degree. A student who is in good standing and completes approximately 16 credit hours each semester will graduate "on schedule" (in four years). Not surprisingly, there is evidence that students who were successful in high school will proceed through the university at a rate that exceeds that of the average or marginal high school student (Figure 3).

Note that in addition to the correlation between high school class standing and hours completed, there are differences among the institutions in the average number of credit hours completed during Spring semester by the resident freshman. Students at ASU from all deciles complete on the average fewer hours than those at UA and NAU, a finding which might be expected. Several investigators have found that students who attend large, public urban universities usually advance toward a degree at a slower pace than students at residential institutions. More students are more likely to attend college on a part-time basis and work at outside jobs while doing so. Table 2 shows the percentage of students registered for 12 or more hours at the three institutions.

As might be expected, ASU accommodates more part-time students than do the other institutions and NAU's status as a residential institution is reflected in the fewest part-time students.

TABLE 2

PERCENTAGE OF STUDENTS REGISTERING FOR 12 OR MORE CREDIT HOURS FALL SEMESTER

	1978	1983	1985	1987
NAU	83.5	86.3	84.2	85.5
UA	83.1	81.2	81.6	82.0
ASU	77.9	77.4	78.0	73.4

An additional complicating factor is that university students often have dual enrollment with a community college. For example, a recent study by the Maricopa Community College District shows that in Fall, 1987, 2,927 ASU students were also enrolled at MCCCD colleges.

How does the rate at which a student proceeds through an Arizona university compare with other postsecondary institutions? Reliable information from other universities is very difficult to obtain. However, we do know from self-reported information that UCLA and UC Berkeley, graduate 55 and 68 percent of their entering freshmen, respectively, in four or five years. Both are Research I Universities, have very high admission requirements and relatively small proportions of transfer and part-time students. The University of Washington, a Research I University with lower admission requirements and a reasonably large transfer population (46 percent of graduates) graduates 42 percent of the entering freshmen within four or five years of entry. In contrast, the California State University System with lower admission requirements (but higher than the Arizona universities) and large numbers of transfer students graduates less than 30% of its entering freshmen in four or five years. The scant data available from the Arizona universities suggest that the fifth year graduation rates for entering freshmen at the UA and ASU are, again, remarkably

similar, and range from 37 percent to 40 percent depending on the year. Such information was not available for NAU but will be in the very near future. NAU has launched an ambitious longitudinal retention study. The Office of Institutional Analysis at ASU has followed the graduation rate for the entering class of 1980. Of those students who graduated in the top quartile of their high school class, 45.5 percent received their degree in five years while only 30 percent of those in the second quartile had exited the university with a degree. We conclude that the two large universities in Arizona are graduating students at a rate that is perhaps better than might be expected considering the liberal admission requirements. We also conclude that there is much room for improvement. One could argue that the most efficient and inexpensive method to achieve improvement would be to increase admission standards.

STUDENTS FROM HIGH SCHOOLS DIFFERING IN AVERAGE BASIC SKILL LEVEL

Requiring a certain class standing or grade point average in high school as requirements for entrance to the university has many caveats. More often than not, we may be placing apples and oranges into the same category (decile). Students who graduate in the top 10 percent in one high school are not necessarily prepared as equally for college as students who graduate in the top 10 percent of another school. There are different levels of academic and, perhaps more important, goal-setting development among the highest achievers in high school. Public high schools in Arizona differ significantly in the level of basic skills development of their students. For example, students from high schools located in affluent suburban areas perform on average at a post-high school level on standardized basic skills examinations (Stanford Achievement Test and Stanford Test of Academic Skills) while students from schools located in urban city centers and in some rural areas perform below the national average on the same sets of standardized examinations (Report for Arizona Pupil Achievement Testing, 1987). The majority of our resident minority students graduate from the city center and rural high schools.

Two subsets of students were extracted from the total sample of students: 1. Those who graduated from the ten high schools recording the highest combined average performance on the reading, language and mathematics standardized tests; and 2. Those who graduated from high schools where the performance on one or more of the basic skills tests was below the national average (see Appendix for a listing of the schools). Students from the former schools comprise approximately 24.6, 19.8 and 10.0 percent of the resident freshman student population during Spring semester, 1987, at ASU, UA and NAU, respectively. NAU is overrepresented by students from the latter cohort of high schools, especially from rural schools (Table 3).

TABLE 3

PERCENTAGE OF RESIDENT FRESHMEN COMING FROM HIGH SCHOOLS MARKED BY "HIGHER* VS. LOWER"** SCORES

	ASU	UA	NAU
"higher scores"	24.6	19.8	10.0
"lower scores"			
Rural	3.6	10.6	16.7
Urban	4.5	7.6	3.9

*High average basic skill level.

**Below average basic skill level.

Students from the "lower scores" schools who attend the universities are more likely to be drawn from the top deciles of their high school classes than are their counterparts drawn from "higher scores" schools (Table 4).

TABLE 4

CLASS STANDING OF RESIDENT FRESHMEN FROM HIGH SCHOOLS WITH POST HIGH SCHOOL (HIGH*) AND BELOW AVERAGE (LOW) BASIC SKILL LEVELS**

DECILE	ASU H* (256)	ASU L** (106)	NAU H (92)	NAU L (145)	UA H (247)	UA L (102)
10	.23	.57	.23	.43	.28	.37
20	.18	.20	.18	.26	.20	.24
30	.20	.11	.14	.14	.17	.14
40	.08	.05	.16	.08	.14	.14
50	.17	.07	.09	.06	.10	.08
60+	.14	.01	.20	.03	.11	.03

We ask the following hypothetical question: If admission standards were increased to include only the top three deciles of the high school graduating class, what would be the impact on students graduating from "higher scores" or "lower scores" high schools? Interestingly, the vast majority of students from "lower scores" schools who chose to enter the universities would have been admitted (Table 5) if the admission had been based solely on high school class standing. However, with the combined aptitude and competency standards, at least one university has found that a large group (14 percent) of the denied students meet aptitude (high school GPA or class standing or standardized test scores) but not competencies (new high school curriculum requirements). Further studies would need to be done to determine whether or not those denied or admitted by exception came largely from "higher scores" or "lower scores" high schools. For reasons that have yet to be determined, students from "lower scores" high schools who graduate in the bottom 70 percent of their class do not seek admission to the universities at a rate comparable to students from "higher scores" high schools and, thus, would not be more negatively affected by the more stringent aptitude requirement. Inspection of Table 5 reveals that many of the students from "higher scores" high schools would not meet the class standing aptitude. While the observation is interesting, it may be misleading. We have not analyzed high school grade point averages or standardized test scores. It might be expected that students from "higher scores" high schools are more likely to be admitted based on standardized test scores than are students from "lower scores" high schools. Clearly, further analysis is needed before firm conclusions can be drawn.

TABLE 5

PROPORTION OF RESIDENT FRESHMEN STUDENTS WHO GRADUATED IN THE TOP 30 PERCENT OF THEIR HIGH SCHOOL GRADUATING CLASS

	TOTAL SAMPLE	"higher scores" High Schools (sub sample)	"lower scores" High Schools (sub sample)
UA	.73	.65	.75
ASU	.75	.61	.89
NAU	.64	.55	.83

IDENTIFYING "AT RISK" STUDENTS

Despite the fact that the majority of the students from "lower scores" high schools graduate in the top deciles of their high school classes, this cohort is

at considerably greater risk academically than are their counterparts when they enter an Arizona university (Table 6).

TABLE 6

PROPORTION OF STUDENTS WITH GRADE POINT AVERAGES BELOW 1.75* FROM "higher scores" (high average basic skill level) AND "lower scores" (low average basic skill level) HIGH SCHOOLS

	"higher scores"	"lower scores"
ASU	.22	.39
NAU	.07	.29
UA	.15	.29

*resident freshmen, spring semester, 1987

From 30 percent to 40 percent of the "lower scores" students are experiencing academic difficulty, compared to from 7- to 22 percent of the former cohort. Furthermore, students from city center and rural high schools where the average basic skill level is lower than the national average complete significantly fewer hours per semester than do their counterparts from the "higher scores" high schools (Table 7).

TABLE 7

CREDIT HOURS COMPLETED* BY RESIDENT FRESHMEN FROM "higher scores" AND "lower scores" HIGH SCHOOLS

	"higher scores"	"lower scores"
ASU	12.9	10.8
NAU	14.2	12.4
UA	13.2	11.3

*spring semester, 1987

We conclude that a large proportion of students from "lower scores" schools are in academic difficulty at Arizona universities because their academic or social preparation for university success is not sufficient. The literature suggests that to be successful at institutions of higher education, students from disadvantaged backgrounds, especially minority students, require extensive social, economic, and academic support systems (Astin, 1986). Emphasis must be placed on developing those systems in Arizona universities if students from "lower scores" high schools are to successfully participate in higher education.

THE NEED FOR MORE COMPREHENSIVE ADMISSION REQUIREMENTS

While admission requirements usually revolve around such predictors as high school GPA or scores on standardized examinations, more and more universities are recognizing that a student commitment to higher education at entry is centrally related to her/his success at an institution. The unavoidable fact is that college completion requires effort and motivation on the part of the student availing himself or herself of the institution. It is equally clear that some students are unwilling or unable to expend the level of effort required to complete a college degree program. Pace (1980) concluded that the quality of student effort is more closely related to academic outcomes than are background factors which mark student entry into college. Duran (1986) reviewed the research on predicting undergraduate college achievement of Hispanic students. He concluded that high school grades are not a good predictor of success as is the case for white non-Hispanics. Duran outlines several predictors other than GPA or standardized test scores which should be examined when considering Hispanic

students for admission. Sedlack (1987) has defined eight non-cognitive variables that predict the grades, retention and graduation rates of Black students. A careful analysis by the Arizona institutions into the more salient characteristics of students who fail and who eventually succeed within their confines would contribute to more rational and comprehensive admissions policies. Improving the likelihood that a student once admitted to the institution will succeed, will depend on a better understanding of the characteristics of the students to be admitted and the commitment of the university to the task of educating the student once she or he has been admitted.

THE NEED TO CONSIDER OPTIONS FOR ARIZONA RESIDENTS

It is worth emphasizing that there are relatively few options for higher education in Arizona compared to most states. Only three public, four-year institutions are currently in place. Contrast this to Colorado, a state of comparable population, where 14 four-year colleges or universities exist. Arizona resident students have few choices and it is clear that many students who may not meet the new admission requirements set by the universities actually would succeed if given the opportunity. It may well be that the benefits accrued from developing talent of marginal students may exceed the costs incurred by those who fail in the system.

THE NEED TO ASSESS THE IMPACT OF ADMISSION STANDARDS IMPLEMENTED IN 1987-1988

As previously stated, more rigorous admissions standards were implemented for all students entering the universities during the Fall of 1987 and for non-residents entering Fall, 1988. Unfortunately, it is too early to assess the impact of those admission requirements on student success. It would seem reasonable that before considering an additional increase in admission standards for resident students, it would be advisable to examine the impact of the new initiatives already in place. We applaud the efforts of the Advisory Committee on Assessment of the Impact of the 1987 Admission Requirements to establish a set of common data elements which the admissions offices of the three universities will collect for future studies. More rational admission requirements can be forthcoming by more careful data collection and analysis. As suggested by the advisory committee, questions that need to be addressed include:

1. What has been the impact of the admission requirements on minority enrollments?

2. What will be the impact of the new requirements on enrollment trends at the universities?

3. What has been the performance of students admitted with deficiencies and what programs have been most successful in assisting students with deficiencies?

4. What has been the overall success of students admitted in the Fall of 1987 and thereafter, compared with the students in the current analysis?

We would add to the list the following questions:

What are the most successful programs in increasing minority access to higher education?

How is the success of such programs measured?

CONCLUSIONS

1. Efficiency at Arizona universities, as measured by retention, rate of completion, and student success would probably be increased by raising admission standards for resident students.

2. Students from "lower scores" high schools are at greater risk academically than are students from "higher scores" high schools despite their higher overall standing in high school graduating classes.

3. Attempts to improve the overall quality of the student body are not rewarded by the current funding system and, thus, the goals of the new admission requirements may be jeopardized.

RECOMMENDATIONS

- The universities should assess the impact of admission standards implemented in 1987 and 1988 on minority enrollment and student success.

- ASU and UA should gradually increase admission requirements for resident students to match those of non-resident students provided that it can be demonstrated that the new requirements will not impede access of qualified students from " lower scores" high schools.

- To increase the probability that the desired changes will be achieved by the new admission standards, the State Legislature and the Regents should examine mechanisms that will insure that the universities will not lose funding during years of enrollment declines.

- The universities' admission policies should be widely distributed to potential participants in higher education. A comprehensive plan for disseminating information about new admission requirements should be developed and implemented with generous lead time for students at appropriate grade levels. Students can then rationally choose the institution where the chance for success is optimized.

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APPENDIX

Ten Arizona public high schools where students score highest, on average, on standardized examinations of basic skills (language, reading and mathematics).

Arcadia	Canyon Del Oro
Chaparral	Dobson*
Gilbert*	Horizon
Sabino	Saguaro
Sahuaro	University

*Gilbert and Dobson were selected by lottery from a relatively large group with similar test results in order to bring the number to 10. The remaining 8 schools were the clear leaders, followed closely by the cohort including Dobson and Gilbert.

Arizona public high schools where students on average scored below the national average on one or more of the standardized examinations of basic skills (language, reading and mathematics).

Ajo	Alchesay	Antelope
Ash Fork	Baboquivari	Bagdad
Bisbee	Bradshaw	Buckeye
Carl Hayden	Casa Grande	Chinle
Cholla	Coolidge	Douglas
Dysart	Florence	Fort Thomas
Ganado	Glendale	Globe
Hayden	Holbrook	Kingman
Kofa	Many Farms	Maricopa
Mayer	Miami	Monument Valley
Morenci	Nogales	North
Page	Patagonia	Payson
Pueblo	Red Mesa	Salome
San Manuel	Santa Cruz	South Mtn.
Sunnyside	Superior	Tolleson
Trevor Brown	Tuba City	Willcox
Williams	Window Rock	Winslow
Yuma		